336-011-RP01

Flood Risk Assessment

New Deer 2 BESS

DOCUMENT STATUS	DATE	BY	CHECKED	APPROVED
Final v2	23.04.2025	James Calvert		James Calvert
		Director		Director
Final v3	23.04.2025	James Calvert		James Calvert
		Director		Director



Second Floor, Hyde Park House, Crown Street, Ipswich, IP1 3LG 01473 236550 www.haydnevans.co.uk

Contents

1	Introduction1
1.1	Limitation1
1.2	Site Proposal1
2	Location & Existing Conditions
2.1	Site Location
2.2	Existing Topography
2.3	Existing Sewer Assets
2.4	Existing Drainage Regime
2.5	Ground Conditions
3	Planning Policy Context
3.1	National Planning Framework 4 (NPF4 Adopted 2023)
3.2	Scottish Environment Protection Agency (SEPA)
3.3	Aberdeenshire Local Development Plan (LDP)
4	Flood Risk Assessment
4.1	Introduction
4.2	Tidal and Fluvial
4.3	Pluvial
4.4	Groundwater
4.5	Sewers
4.6	Reservoirs & Artificial Sources
5	Summary and Conclusion

Appendix A - Site Overview Plan

Appendix B - Utilities Search

Appendix C - Site Investigation

1 Introduction

Haydn Evans Consulting Ltd (HEC) has been commissioned by Field New Deer Ltd (hereafter referred to as the Client) to carry out a Flood Risk Assessment (FRA) to support a planning application for the construction and operation of a Battery Energy Storage System (BESS) of up to 400 megawatts (MW) with associated infrastructure (including cable route to substation), access and ancillary works (the Proposed Development) on land approximately 1.5 kilometres (km) south of Cuminestown, Turriff, Aberdeenshire, AB53 8JJ (the BESS Site). Although the Planning Boundary for the application comprises approximately 129 ha, this FRA assesses the western land parcel, also known as the 'BESS Site'.

1.1 Limitation

This document has been prepared for the sole use of the Client. The copyright of this report is vested in HEC and the Client. HEC accepts no responsibility whatsoever to other parties to whom this report, or any part thereof, is made known. Any such other parties that rely upon the report do so at their own risk.

The FRA should be read in conjunction with the Drainage Impact Assessment (DIA) which has been prepared for this site; HEC document reference 336-011-RP02.

1.2 Site Proposal

The Application Boundary comprises approximately 129 ha. The BESS Site comprises an area approximately 33 ha, with the BESS Compound itself comprising 9.4 ha.

The Proposed Development comprises a Battery Energy Storage System (BESS) with a generation capacity of up to 400 megawatts (MW) of electricity, which will charge and discharge from the adjacent proposed Greens (New Deer 2) substation. The Proposed Development includes:

- Battery storage units / containers arranged into rows.
- Medium-voltage (MV) skids and ancillary low-voltage (LV) equipment.
- High-voltage (HV) grid transformers.
- Air insulated switchgear.
- A substation building comprising welfare facilities, a switch room and control room.
- An underground 400 kV grid connection cable; and
- Site-wide supporting infrastructure including cabling, access tracks, fencing, attenuation basins, and landscaping measures.

Whilst the exact specifications are subject to detailed design, the principal components described form the basis of the planning application to allow environmental assessments and mitigation to be appropriately scoped.

2 Location & Existing Conditions

2.1 Site Location

The BESS Site (herein referred to as 'the site') is located to the south of Cuminestown and west of New Deer, on approximate Ordnance Survey (OS) grid reference NJ 80816 48145 (see red line boundary on Figure 1).



The Site is predominately surrounded by greenfield land.

There is an unclassified road to the southern boundary and a private access road to the southwest boundary. The remainder of the Site borders onto agricultural land either used for forestry, arable crops, or grazing.

The access to the Proposed Development is located on the southern boundary off the unclassified road; there is an existing vehicular access at this location. This access will be used for all construction and maintenance traffic.

2.2 Existing Topography

A topographic survey has been produced for the Site. The survey shows ground levels to generally fall from south, towards the north. Ground levels in the south are circa 175 metres Above Ordnance Datum (mAOD), falling to circa 158 mAOD in the north. This is an existing vehicular access track running through the development site which is raised above surrounding ground levels.

2.3 Existing Sewer Assets

The utilities search report and drawings do not show any Scottish Water (SW) foul or surface sewers within the vicinity of the Site (see Appendix A).

2.4 Existing Drainage Regime

There is no formal drainage system located on site therefore it is assumed the surface water runs-off would flow overland following the topography to the Burn of Greens or infiltrate into the underlying soils.

2.5 Ground Conditions

British Geological Survey (BGS) mapping confirms the Site to have a bedrock geology of Macduff Formation (Micaceous psammite, Semipelite, and Pelite) (see Figure 2).

The superficial deposits for the Site are shown to comprise of Peat (see Figure 3, shading brown). The remainder of the Site is shown to have no superficial deposits.



Figure 2: BGS Mapping - Bedrock geology

Figure 3: BGS Mapping - Superficial deposits

The Phase 1 Desk Study, prepared by RSK Environment Limited on behalf of the Client (Ref: 340617) provides similar findings regarding the geology. The report recommends that further investigation is required to confirm groundwater depths.

RSK Geosciences undertook intrusive site investigations in March 2025, see Appendix B. The window samples shown ground conditions across the site are generally peat overlying fine to coarse sand. The trial pit logs show a mixture of peat and made ground overlying fine to coarse sands and gravels, with cobbles and boulders in places.

Water was encountered in window sample 3 at a depth of 0.5m. Water was not encountered in any other window samples or trial pits.

Soakaway testing was undertaken at 5 locations across the site including 2 in the north where the attenuation basin is shown. SA1 returned at permeability of 8.33×10^{-6} m/s, however SA2 located close to SA 1 failed to achieve an infiltration rate. All other infiltration tests either failed or returned results below a rate suitable for the use of infiltration.

3 Planning Policy Context

3.1 National Planning Framework 4 (NPF4 Adopted 2023)

The National Planning Framework 4 (NPF4, 2023) includes government policy for developments and meeting the challenges of climate change and flood risk.

The Policy 22 guidance states "Development proposals at risk of flooding or in a flood risk area will only be supported if they are for essential infrastructure, water compatible uses, redevelopment of an existing building or site for an equal or less vulnerable use, or redevelopment of previously used sites in built up areas."

The protection offered by an existing formal flood protection scheme or one under construction can be considered when determining flood risk. All risks of flooding are understood and addressed; there is no reduction in floodplain capacity, increased risk for others, or a need for future flood protection schemes; the development remains safe and operational during floods; flood resistant and resilient materials and construction methods are used; and future adaptations can be made to accommodate the effects of climate change.

Development proposals will not increase the risk of surface water flooding, manage all rain and surface water through sustainable urban drainage systems (SUDS), and seek to minimise the area of impermeable surface. These proposals will be supported if connecting to public water mains; however, if not feasible the applicant will need to demonstrate that water for consumption is sourced from a sustainable source. Proposals which create, expand or enhance opportunities for natural flood risk management, including blue and green infrastructure, will be supported."

3.2 Scottish Environment Protection Agency (SEPA)

SEPA is an independent advisor on flood risk, providing flood risk advice for certain consultations. SEPA document '*Technical Flood Risk Guidance for Stakeholders*' outlines the information required to be submitted a part of a FRA.

3.3 Aberdeenshire Local Development Plan (LDP)

The Aberdeenshire LDP sets out a vision for helping develop a strong and resilient economy, maintaining a high quality of life and exceptional environment. The LDP seeks to

- Promote sustainable mixed communities with the highest standards of design
- Take on the challenges of sustainable development and climate change
- Protect and improve assets and resources
- Increase and diversify the economy
- Protect, enhance and promote blue-green networks within and between settlements; and
- Make efficient use of the transport network, reduce the need to travel and promote walking, cycling, wheeling and public transport.

Section 13 of the LDP sets of policies in relation to climate change.

• Policy C2 Renewable Energy - supporting renewable energy developments

 Policy C4 Flooding - sets out requirements for Flood Risk Assessments to be undertaken as part of planning application process and sets requirements relating to impact of development on flood risk

4 Flood Risk Assessment

4.1 Introduction

The main sources of flooding have been assessed as part of this report, in line with the NPF4, as follows:

- Tidal and Fluvial;
- Pluvial;
- Groundwater;
- Sewers; and
- Reservoirs and other artificial sources.

4.2 Tidal and Fluvial

Tidal, or coastal flooding from the sea, is the inundation of land along the coast usually caused by high tides or storm surge. Fluvial, or river flooding, occurs when the water level in a river, lake or stream rises and overflows onto neighbouring land as a result of the capacity of rivers being exceeded by the river flow.

The Moray Firth Sea is located 16km north of the site; due to the inland location and elevation above sea level the site is not at risk of tidal flooding.

The Burn of Greens is the closest mapped watercourse, located approximately 400m to the north of the Site. The watercourse flows to the east before turning south after approximately 1.3km. The watercourse is shown to flood however this will not impact the Proposed Development as the watercourse is at a lower level ensuring any flooding flows away from the Site. This burn is not shown to provide a risk to the site on SEPA mapping (see Figure 4).



The SEPA mapping confirms the Site's location is therefore classified as being at less than 0.1% annual risk of flooding from rivers and seas (see Figure 4).



The site is at low risk of flooding from tidal and fluvial sources.

4.3 Pluvial

Pluvial, or surface water flooding, occurs when heavy rainfall creates a flood independent of an overflowing water body. Pluvial flooding can occur in any location and is usually a result of intense rainfall saturating an urban drainage system, rainfall run-off on elevated terrain or where natural ground has been paved. Surface water run-off can be channelled either by natural features such as valley lines or by artificial features such as highways, to low points in the topography. If surface water is not able to flow away from topographical low points, then pluvial flooding can occur.

The SEPA Surface Water Flooding and Small Watercourse Flooding map (see Figure 5) shows localised areas and channel features both on the Site and surrounding areas to be at a low to high likelihood of flooding from surface water.



Figure 5: SEPA Flood Map - Surface Water and Small Watercourse Flooding

The localised nature of the flood risk shown on the SEPA mapping suggests that there are areas on the Site which are local low points and from which water cannot freely drain away. The topographical survey has been reviewed to confirm the accuracy of the SEPA mapping, and it shows that the low points identified to flood are present locally.

OS mapping contours show surrounding ground levels to generally fall from the south towards the north; land to the east is at a higher elevation and surface water run-off could be shed towards the Site from the east. Due to the greenfield nature of the land in this location, with heavily vegetated areas, it is considered unlikely that a significant volume of surface water would be shed towards the Site.

The areas at risk of flooding as shown on the SEPA mapping fall within the Proposed Development area. Areas that will be developed will see the reprofiling of the Site which will result in the removal of the local low points and the incorporation of a surface water drainage system. This will remove the risk of flooding in these areas.

The proposed surface water drainage strategy for the Site is provided in the HEC Drainage Impact Assessment (DIA) report (reference 336-011-RP02) which accompanies the application. The DIA report provides information on how the drainage proposals mimic the existing drainage regime and restrict run-off to greenfield run-off rates; this mitigates the potential for any surface water flooding to occur at the Site and reduces the risk of surface water flooding to off-site receptors.

The Site is at a low risk of flooding from this source.

4.4 Groundwater

Groundwater flooding generally occurs when water levels below the ground rise during wet winter months; these levels usually fall again in the summer months as water flows out into rivers.

Based on information gathered from a HEC site visit, the risk of groundwater flooding is considered to be low. The Site's topography facilitates surface water runoff, directing it away from the BESS Compound. Geological assessments from the Phase 1 desk study, includes data from the BGS, indicate low soil permeability, resulting in minimal water infiltration into the ground. Furthermore, the Site's elevated position prevents large amounts water from flowing through the area, further reducing flood risk

The Site is at low risk of groundwater flooding.

4.5 Sewers

Scottish Water (SW) sewer records for the Site have been obtained (see Appendix A) showing there are no sewers within the vicinity of the Site. Therefore, there is no risk associated with flooding from this source.

The Site is at a low risk of flooding from sewers.

4.6 Reservoirs & Artificial Sources

A review of OS mapping shows that there are no significant water bodies (lakes, lochs, large ponds, reservoirs etc.) within the immediate vicinity that appear likely to pose a risk to the Site. There are no significant water bodies upstream of the Site which could pose a flood risk to the site.

The Site is at low risk of flooding from these sources.

5 Summary and Conclusion

HEC has been commissioned by Field New Deer Ltd to carry out an FRA to support a planning application for the construction and operation of a 400 MW Battery Energy Storage System (BESS) with associated infrastructure, access and ancillary works on land south of Cuminestown, Turriff, Aberdeenshire.

The Site is at low risk of tidal and fluvial flooding meeting the requirements of the NPF4 in terms of being appropriate for development.

Pluvial flooding is shown on the SEPA mapping to pond in locally low areas of the Site. The development of the Site will see the reprofiling of the topography, removal of the local low points and the incorporation of a surface water drainage system. This will remove the risk of flooding in these areas.

The Site is assumed to be at low risk of groundwater flooding due to the geology of the soil having low permeability, the topography directing surface water run-off away from the Site, and the elevated position of the Site preventing large amounts of water sheading across it.

The proposals for the Site do not increase on or off-site flood risk and are therefore considered to be acceptable in relation to flood risk.

Appendix A – Site Overview Plan

Field Drawing BTGBNDE02 001.1 03 - Site Overview Plan



+ ma	Drawing Note 1. All dime otherwi 2. Do not 3. Refer to for furth	ensions are se. scale from o drawing (ner informa	e shown in metres unless this drawing. 001.1.1 - Detailed Site La tion on the BESS site.	s noted iyout Pl	an
Arraw • 100 • 100 • 100 • 100		Planning I SSE's Pro Substatio Cable Ro Palisade I 4.5m Aco Stock Pro Attenuatio Access R Access R Landscap Plan (100 Existing F	Boundary oposed Greens (New Dee n Boundary (APP/2024/1 ute Fencing ustic Fencing of Fencing on Basin oad - Unbound Finish oad - Bound Finish ing Bunds ing - refer to Landscape 5-SHRSK-XX-XX-DR-L- orestry (to be retained)	er 2) 927). Mitigati 1000)	on
550					
La Las					
Green					
	03 01.04.2025 02 27.03.2025 01 21.03.2025 00 25.02.2025 REV DATE	Acce Point of connect Amendments to	ss bellmouth amended for AIL's. ion, Greens Substation boundary and stock proof fence added. planning boundary, drainage, cable route, landscaping and fencing. Site Layout Plan - Original DESCRIPTION	JH JH JH BY	AP AP AP AP CHK'D
	PROJECT	D	Field Fora Montacute Y 186 Shoreditch High London E1 6HU	ards Street	
	New D تتلك Site O	eer Overview I	Plan		
3m 4m 5m 6m 7m 8m 9m 10m 5m 10m 15m 20m 20m 20m 20m 25m 20m 25m 20m 25m 20m 25m 20m 25m 20m 30m 40m 50m 20m 30m 40m 50m 200m 100m 150m 200m 200m 100m 150m 200m 250m 200m 300m 400m 500m 500m 500m 100m 150m 200m 250m 250m 200m 250m 200m 300m 400m 500m 500m <t< th=""><td>DISCIPLINE DRAWING STATUS SCALE 1:5,000 @A1 PROJECT NO. BTGBNI</td><td>FC DATE 25.02.2025 DE02</td><td>PLANNING PR PLANNING DRAWN BY JH CHECKED BY AP DRAWING NO. 001.1</td><td>APPR</td><td>oved by RS REV. 03</td></t<>	DISCIPLINE DRAWING STATUS SCALE 1:5,000 @A1 PROJECT NO. BTGBNI	FC DATE 25.02.2025 DE02	PLANNING PR PLANNING DRAWN BY JH CHECKED BY AP DRAWING NO. 001.1	APPR	oved by RS REV. 03

Appendix B - Utilities Search

Underground Utilities Search Page 1 of 2 - Site ref: BTGBNDE02 - Cornerstone Projects Ltd



 NOTES: 1. Ot not scale from this drawing. 1. Vility connections to individual properties / buildings are often not shown on the utility plans but it should be assumed that such itwe utility connections exist. Connections to street lighting and other road furniture / signage may also not be shown but should be considered to exist until proven ortherwise. 2. Any utility apparatus shown outside the search boundary may be included to drawing (and any pdf prints of the same) is based on the original utility plans contained within the Utility Search Report (USR) which must be terefored to prior to any work. This drawing is intended to be indicative only and must not be relied to a to proviee confirmation of the type, location, status, presence or absence of any utility apparatus. This CAO frawing should not be used an sporpoints. 2. The actual type, location, status, presence or absence of all utility apparatus. This CAO frawing should be used as a sporpoints. 3. The actual type, location, status, presence or absence of all utility plans. This CAO frawing should be used as a sporpoints. 4. The actual type, location, status, presence or absence of all utility plans. Prese utility plans the drawing is labed on the original utility plans. This CAO frawing should be used as a sporpoints. 5. The actual type, location, status, presence or absence of all utility plans. Prese utility plans this drawing is based on are only valid for three months from the date of issue of the USR for these details. 6. The size and type of each utility is not denoted on this drawing and the functioner solution which must be reperted the (Colour and Scalay Paratus), the date of issue of the USR for these details. 6. The size and type of each utility is not denoted on the original utility plans. This Grawing is based the (Ordinance Survey OS) mapping then it is to long the trave the type, location, at a second the oreginal utility plans. This Grawing is b
SEARCH BOUNDARY
REV: DESCRIPTION: BY: DATE:
91 Market Street, Hoylake, Wirral, CH47 5AA 0151 632 5142 enquiries@cornerstoneprojects.co.uk www.cornerstoneprojects.co.uk VAT REG NO. 8514941 19 COMPANY NO. 5132353
UNDERGROUND UTILITIES SEARCH
CLIENT NAME: Virmati Energy
SITE NAME:
New Deer
SITE REFERENCE: SHEET NO: BTGBNDE02 10F 2
SCALE: DATE: DRAWN: CHECKED: 1:2000 11/02/2025 HE FC



Appendix C – Site Investigations

RSK Window Sample and Trial Pit Logs

RSK Soakaway Test Logs





New Deer Virmati Energy Ltd (Field Energy) WS1 Contract Ref: Start: 04.03.25 Ground Level (m AOD): National Grid Co-ordinate: Sheet: 340617 End: 04.03.25 Ife2.13 E:381038.1 N:848488.4 1 of 1 Progress Samples / Tests Image: Sample / Samples / Samples / Samples / Samples / Samples / Samples	Contract:						Client:	Window	Vindow Sample:			
Contract Ref: Start: 04.03.25 Ground Level (m AOD): National Grid Co-ordinate: Sheet: 340617 End: 04.03.25 162.13 E:381038.1 N:8484888.4 1 of 1 Progress Samples / Tests arg of the second secon		Ne	w D	eer			V	irmati En	ergy Ltd (Field Energy)			WS1
340617 End: 04.03.25 162.13 E:381038.1 N:8484888.4 1 of 1 Progress Samples / Tests Image:	Contract Ref:			Start:	04.03.25	Grour	nd Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
Progress Samples / Tests Image: Samples / Tests	3	40617		End:	04.03.25		162	.13	E:381038.1 N:848488.4		1	of 1
Window Run Depth No Type Results Type Results Type Description of Strata (Inick of april charanter in the second sec	Progress		Sam	nples / Te	ests	er	fill & ru- ation				Depth	Material
0.10-0.30 1 ES Spongy dark brown organic rich slightly gravelly slightly sandy clayey fibrous PEAT. Sand is fine to coarse. Gravel is angular to subounded fine to coarse sandstone and chert. (TOPSOIL) 0.35 1.10-1.55 1 SPT N=10 Vellowish brown gravelly fine to coarse slightly clayey. (TILL) 0.35 1.10-2.00 1.10-1.55 1 D N=10 September 1.100-200 September 2.200-245 2 SPT N=13	Window Run	Depth	No	Туре	Results	Wat	Back Inst menta		Description of Strata		(Thick ness)	Legend
is angular to subrounded fine to coarse sandstone and 0.35 chert. (TOPSOIL) Yellowish brown gravelly fine to coarse SAND with high cobble content. Gravel is angular to subangular sandstone. (1.10-1.55 1 D N=10 1.10-2.00 (101mm dia) 100% rec 2.00-2.45 2 D N=13 2.00-2.45 2 D N=13 1.10-1.55 1 D N=13 1.10-2.00 (1.10-2.	-	0.10-0.30	1	ES			遊路	Spongy da sandy claye	rk brown organic rich slightly gravelly ey fibrous PEAT. Sand is fine to coarse.	slightly Gravel	(0.35)	17.51.17.517
1.10-1.55 1 SPT N=10 (TOPSOIL) Yellowish brown gravelly fine to coarse SAND with high cobble content. Gravel is angular to subangular fine to coarse sandstone. Cobbles are angular to subangular sandstone. (1.10-1.55 1 D N=10 From 0.90 m depth - Becomes slightly clayey. Creenish yellow locally mottled orangish red slightly sandy gravelly SILT. Sand is fine to medium. Gravel is angular to rounded fine to medium quartz and flint. (TILL) Cruck and the tote of t	-	-					59 K	is angular ∖chert.	to subrounded fine to coarse sandstor	ne and	- 0.35	
1.10-1.55 1 SPT N=10 Image: Constant of the constan		-							rours grouply find to approv SAND with	h high		
1.10-1.55 1 SPT N=10 Image: Constraint of the second secon	- - -	- - - - - - - - - - - - - - - - - - -						cobble con coarse sar sandstone.	fine to angular	(0.85)		
Creenish yellow locally mottled orangish red slightly sandy 1.00 - 2.00 (101mm dia) 100% rec 2.00-2.45 2 SPT N=13 2.00-2.45 2 D N=13 Creenish yellow locally mottled orangish red slightly sandy gravelly SILT. Sand is fine to medium. Gravel is angular to rounded fine to medium quartz and flint. (TILL) Creenish yellow locally mottled orangish red slightly sandy gravelly SILT. Sand is fine to medium. Gravel is angular to rounded fine to medium quartz and flint. (TILL)		1.10-1.55	1	SPT	N=10			From 0	.90 m depth - Becomes slightly clayey.		1.20	0.00
100° - 2.00 - <td< td=""><td></td><td>-</td><td></td><td>D</td><td></td><td></td><td></td><td>gravelly SIL</td><td>ellow locally mottled orangish red slightly</td><td>sandy gular to</td><td>-</td><td>× · × · ×</td></td<>		-		D				gravelly SIL	ellow locally mottled orangish red slightly	sandy gular to	-	× · × · ×
2.00-2.45 2 SPT N=13	(101mm dia) 100% rec	-						(TILL)	e to medium quartz and flint.		-	×ox × ×o
		-									-	וˆ×
$\begin{bmatrix} 2.00-2.45 & 2 & \text{SPT} & \text{N=13} & & & & & & & & & & & & & & & & & & &$		-									-	
		2.00-2.45	22	SPT D	N=13						-	ו• × × ×
	-	-									-	× × • ×
[2:00 - 3:00] [(101mm dia)] - 100% rec. [] [] [] [] [] [] [] [] [] [2.00 - 3.00 (101mm dia)	-						From	2.50 m depth - Becomes bluish and	slightly	-	ו•ווו ו•×
		-						gravelly.				ו• × •ו ו
		-									-	× × • × ×
$\begin{bmatrix} 3.00-3.45 & 3 & \text{SPT} & \text{N=20} & & & & \\ 3.00-3.45 & 3 & D & & & & \\ \end{bmatrix} \begin{pmatrix} \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet &$		3.00-3.45 3.00-3.45	3 3	SPT D	N=20							וו וו
	-	-									- (4.25)	× • × • ו × • ×
3.00 - 4.00 [3.00 - 4.00 (101mm dia)	-									-	× × ×
	- 100% rec	-									-	*•• * * * * * * * * * * * * * * * * * *
$\begin{bmatrix} 3.80 & 2 & ES \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet &$	F V	3.80	2	ES							-	× · · × × · · ×
4.00-4.45 4 SPT N=21 4.00-4.45 4 D 		4.00-4.45 4.00-4.45	4 4	SPT D	N=21						-	× × × × ×
		-						2			-	וו ו
4.00 - 5.00 [× <t< td=""><td>4.00 - 5.00 (101mm dia)</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td>× • °×• • × • × • × c</td></t<>	4.00 - 5.00 (101mm dia)	-									-	× • °×• • × • × • × c
	- 100% rec	-									-	× × × ×
		-									-	*o``X``X
5.00-5.43 5 SPT N:50 for 280mm	-	5.00-5.43 5.00-5.45	5 5	SPT D	N:50 for 280m	nm					-	*
	-	-									-	× • × • ×
Image: Second	-	-						Window sa	mple hole terminated at 5.45 m depth.		- 5.45	•••ו *•
	-	-							· · ·		-	
	-	-									-	

		Drilling Pr	rilling Progress and Water Observations					General Remarks						
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erai	Remarks			
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr 4. 50 mi cover depth	on scanne ction pit h oundwate m diamete installed t	ed with a CAT a and dug to 1.10 r encountered. r gas/groundwa o 5.00 m depth	and Ger) m dep ater mor i on con	nny prior to excava th. nitoring well compl npletion. Respons	ation. ete with flus e zone 1.00	h prote m to 5	ctive .00 m
2							A	All dimensi	ons in metres		Scale:	1:33		
1000107	Method Used:	Tracke sar	d windo npling	W Pla Us	ant ied: P	remier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS



Contract:						Client:		Windo	le:		
	Ne	w D	eer			Vi	irmati En	ergy Ltd (Field Energy)			WS2
Contract Ref:			Start:	05.03.25	Groun	d Level	(m AOD):	National Grid Co-ordinate:	Sheet		
3	40617		End:	05.03.25		162.	.57	E:381066.7 N:848417.7		1	of 1
Progress		Sam	ples / Te	ests		≪ . 5				Donth	Matorial
Window Run	Depth	No	Туре	Results	Water	Backfill Instru- mentatio		Description of Strata		(Thick ness)	Graphic
-	-						Spongy da clayey fibro angular to s and chert. (TOPSOIL)	rk brown organic rich slightly grave ous PEAT. Sand is fine to coarse. subrounded fine to coarse quartzite, s	lly sandy Gravel is andstone	(0.30) 0.30	
-	- 0.50-0.80 - - - -	1	ES			°.° 1 .°.	-				
	- 1.20-1.65 - 1.20-1.65 - -	1 1	SPT D	N=12						- - - - (2,50)	
1.20 - 2.00 (87mm dia) 100% rec	- - 1.65-2.00 -	1	В							(2.50) - -	
2.00 - 3.00	2.00-2.45 - 2.00-2.45 - - -	2 2	SPT D	N=20			From 2				
- (77mm dia) - 100% rec 	- - 2.70	2	ES				Cream sligh	ntly sandy clayey SILT. Sand is fine to	coarse.	2.80	
	- 3.00-3.45 - 3.00-3.45 - -	3 3	SPT D	N=14			(TILL)	.20 m depth - becomes light grey.		 [(0.75)	
3.00 - 4.00 (77mm dia) 100% rec	- - - 3.55-4.00 - -	2	В				Yellowish b Gravel is ar (TILL)	prown slightly gravelly fine to coars ngular to subangular fine to coarse sa	e SAND. ndstone.	- - <u>3.55</u> - -	
- V - - -	- 4.00-4.30 - 4.00-4.30 - -	4 4	SPT D	N:50 for 170mm	n		Windows	mple hole terminated at 4.20 m dowth		- (0.75) 4.30	0.0
-	-						window sai	mple note terminated at 4.50 m depth.		-	

		Drilling Pro	illing Progress and Water Observations						Can	متحا	Domoriko		
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erar	Remarks		
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr 4. 50 mi cover depth	on scanne ction pit h oundwate n diamete installed t	ed with a CAT a and dug to 1.20 r encountered. r gas/groundwa o 4.00 m depth	and Ger) m depi ater mor i on con	nny prior to excava th. hitoring well compl npletion. Respons	ation. ete with flush pro e zone 1.00 m to	otective 4.00 m
2							l A	All dimensi	ons in metres		Scale:	1:25	
1000107	Method Used:	Tracke san	d windo npling	w Pla Use	nt ^{ed:} Pr	remier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:	AGS



Contract:						Client:		Window Sample:			
	Ne	w D	eer			Vi	irmati En	ergy Ltd (Field Energy)			WS3
Contract Ref:			Start:	06.03.25	Grou	nd Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
3	40617		End:	06.03.25		167.	90	E:380940.8 N:848064.1		1	of 1
Progress		San	nples / Te	ests	r	rill & ru- ntion				Depth	Material
Window Run	Depth	No	Туре	Results	+6///	Backf Insti menta		Description of Strata		(Thick ness)	Graphic Legend
-	0.10-0.30 	1	ES				Spongy da fibrous PEA subrounded subangular \(PEAT)	k brown organic rich slightly gravelly T with low cobble content. Gravel is ang I fine to medium quartzite. Cobble to subrounded quartzite up to 155 mm.	clayey jular to es are	(0.40) 0.40	
0.60 - 1.00 (87mm dia) 100% rec	0.60-1.00 	1	В				Yellowish liq Gravel is ar (TILL)	ht brown gravelly clayey fine to coarse s gular to subangular fine to medium sanc	SAND. Istone.	-	
	- 1.00-1.45 1.00-1.45 -	1 1	SPT D	N=16			From 1	20 m depth - Becomes fine SAND.		-	# # #
1.00 - 2.00 (87mm dia) 100% rec	- - 1.45-2.00 - - -	2	В							-	
	 2.00-2.45 2.00-2.45 -	2 2	SPT D	N=14			From	230 m denth - Becomes cream to light	brown	-	
2.00 - 3.00 (77mm dia) 80% rec	- - 2.45-3.00 - - -	3	В				streaked or	ange.	brown	- - - - - (5.05)	
	3.00-3.45 3.00-3.45	3 3	SPT D	N=18						-	
3.00 - 4.00 (77mm dia) 90% rec	- - 3.45-4.00 - - -	4	В							-	
- 4.00 - 5.00 (67mm dia)	4.00-4.45 4.00-4.45	4 4	SPT D	N=32						- - - -	
90% rec	- 4.70 -	2	ES							-	
	5.00-5.45 5.00-5.45 - -	5 5	SPT D	N=31						- - - - 5.45	
- - -	- - - -						Window sai	nple hole terminated at 5.45 m depth.		- - - -	

	Drilling Pro	ogress and	Water Ob	servations					I				
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)			Gen	erai	Remarks			
06/03/25		5.45	-		0.50	 Positi Inspe Groui 50 mi cover depth 	 Position scanned with a CAT and Genny prior to excavation. Inspection pit hand dug to 0.60 m depth. Groundwater seepage at 0.50 m depth in inspection pit. 50 mm diameter gas/groundwater monitoring well complete with flush protectiv cover installed to 5.00 m depth on completion. Response zone 1.00 m to 5.00 depth. 						ctive .00 m
						A	All dimensi	ons in metres		Scale:	1:33		
Method Used:	Tracke san	d windo npling	W Plan Used	t ^{J:} Pr	emier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS



Contract:						Client:		Window Sample:			
	Ne	w D	eer			V	'irmati En	ergy Ltd (Field Energy)			WS4
Contract Ref:			Start:	05.03.25	Gro	ound Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
3	40617		End:	05.03.25		167	.82	E:380904.7 N:848076.3		1	of 1
Progress		San	nples / Te	ests		er fill & tion				Depth	Material
Window Run	Depth	No	Туре	Results		Wat Backt Insti		Description of Strata		(Thick ness)	Graphic Legend
-	-						Spongy dai PEAT. Sa	rk brown slightly gravelly slightly sandy nd is fine to coarse. Gravel is ang	fibrous ular to	(0.40)	$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}$
-	-						subangular _ (TOPSOIL)	fine to coarse quanzite.		0.40	<u></u>
-	0.50-0.80	1	ES				Light brown	n locally mottled orange sandy clayey e to medium.	SILT.	-	× <u>·</u> × × ×
-	-						(TILL)			-	× × × ×
-	-					°.°⊟.°				-	*****
-	-	1	SDT	N-11			•			-	× • × • × • × × • ×
	1.20-1.65	1	D				•			-	$\frac{1}{2} \frac{1}{2} \frac{1}$
1.20 - 2.00 (101mm dia)	-						° °			-	
- `100% rec´	-						° °			-	× • × • × •
			ODT	N 40			0 0			-	× × × ×
	2.00-2.45	2	D	N=19			。 。 。			-	* * * * * * * * * *
-	-						brown and	2.20 m deptn - Becomes greenish mottle orange.	ed light	-	× • × • • ו ×
(101mm dia) 100% rec	-						•			-	$\dot{\mathbf{x}}$
	-						0 0			-	
¥	-						•			- (5.05)	× · · × ·
	3.00-3.45	3	SPT	N=19			•			-	
	-						•			-	* `. * `.
3.00 - 4.00 (101mm dia) 100% rec	3.50-4.00	2	ES				•			-	ו•**
	-						~ •			-	$\times \times \times \times \times$
<u> </u>	-						~ •			-	
	4.00-4.45 4.00-4.45	3 4	D SPT	N=25			° °			-	××
-	-						At 4.30) m depth - Band of light orangish brown	fine to	-	
4.00 - 5.00 (101mm dia)	-						coarse SAN	ND.		_	* * * * *
100%1ec	-						•			_	· ×· ×- × · · ×
- V	-						•			-	$\stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{\overset{\times}{\cdot}} \stackrel{\times}{\overset{\times}{} \overset{\times}{}{} \overset{\times}{}{$
	5.00-5.45 5.00-5.45	4 5	D SPT	N=45						Ľ	$ \frac{\times}{\times} \frac{\times}{\times} \frac{\times}{\times} \frac{\times}{\times} $
-	-										×××
-	-						Window sa	mple hole terminated at 5.45 m depth.			•× • ×
F	-									F	
-	-									-	

		Drilling Pro	ogress and	Water 0	Observation	s			Com	المعم				
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erai	Remarks			
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr 4. 50 mr cover depth	on scanne ction pit h oundwate n diamete installed t	ed with a CAT a and dug to 1.20 r encountered. r gas/groundwa o 5.00 m depth	and Ger) m dep ater mor i on con	nny prior to excava th. nitoring well compl npletion. Respons	ation. ete with flus e zone 1.00	h proteo m to 5.	ctive .00 m
2							A	All dimensi	ons in metres		Scale:	1:33		
10007	Method Used:	Tracke san	d windo npling	W Pla Us	ant sed: P	remier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS



Contract:						Client:			Windo	<i>w</i> Sampl	e:
	Ne	w D	eer			Vi	irmati En	ergy Ltd (Field Energy)			WS5
Contract Ref:			Start:	06.03.25	Gro	und Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
3	40617		End:	06.03.25		168.	41	E:380767.9 N:848266.4		1	of 1
Progress		San	nples / Te	ests		er fill & ru- ation				Depth	Material
Window Run	Depth	No	Туре	Results		Wat Backf Insti		Description of Strata		(Thick ness)	Graphic Legend
-	0.10-0.30	1	ES				Spongy dar fibrous PEA subangular (TOPSOIL)	k brown slightly gravelly slightly sandy \T. Sand is fine to coarse. Gravel is ang fine to coarse quartzite.	clayey gular to	(0.40)	$\frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{1}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{1}{i_{i}}} \cdot \frac{1}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{1}{i_{$
- 0.60 - 1.00 (87mm dia) - 100% rec	- - - - - - - - -	1 1	SPT D	N=22			Cream slig angular to s (TILL)	htly gravelly fine to coarse SAND. Gr ubangular fine to coarse sandstone.	avel is	- - - - (1.20)	
	 - 1.05-1.60 - - -	1	В								0 0 0 0 0 0
- - - - 160 - 2.60	- 1.60-2.05 - 1.60-2.05 - - -	2 2	SPT D	N=18			Cream sligh (TILL)	tty sandy SILT. Sand is fine to medium.		- - - -	* * * * * * * * * * * * * * * * * *
(87mm dia) - 100% rec	- 2.20 -	2	ES							-	
	2.60-3.05 2.60-3.05	3 3	SPT D	N=14						-	
2.60 - 3.60 (77mm dia) 90% rec	 - 3.05-3.60 - - -	2	В				From 3	.20 m depth - Becomes light brown.		(3.05) 	* ×* * * ×* * * ×* * * ×* * * ×* * * ×* *
3.60 - 4.20 (67mm dia) - 100% rec	- 3.60-4.05 3.60-4.05 - - -	4 4	SPT D	N=37						- - -	
[¥ - - -	- 4.20-4.65 - - -	5	SPT	N=37						- - - - - 4.65	······································
-	-						Window sa refusal.	mple hole terminated at 4.65 m depth	due to	-	

		Drilling Pro	ogress and	Water Ob	servations				Can	متصار	Domortico		
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erari	Remarks		
			(m)	(m)	(mm)	(m)	 Positi Inspe No gr 50 mr cover depth 	on scann ction pit h oundwate n diamete installed	ed with a CAT a and dug to 0.60 r encountered. r gas/groundwa to 4.20 m depth	and Gen) m depi ater mor 1 on con	ny prior to excava th. hitoring well compl pletion. Respons	ation. ete with flusl e zone 1.00	h protective m to 4.20 m
							A	All dimens	ions in metres		Scale:	1:28	
-	Method Used:	Tracke san	d windo npling	W Plan Use	t d: Pr	emier 11	0	Drilled By:	Central Alliance	Logged By:	d HGildersleeves	Checked By:	AGS



Contract:						CI	ient:			Window	w Sampl	e:
	Ne	w D	eer				Vi	rmati En	ergy Ltd (Field Energy)			WS6
Contract Ref:			Start:	06.03.25	Grou	nd L	evel (m AOD):	National Grid Co-ordinate:	Sheet:		
34	40617		End:	06.03.25		1	69.	79	E:380676.7 N:847939.4		1	of 1
Progress		Sam	nples / Te	ests	r	ت	u- tion				Depth	Material
Window Run	Depth	No	Туре	Results	Wote	Backf	Instr menta		Description of Strata		(Thick ness)	Graphic Legend
								Firm dark	brown slightly gravelly slightly sandy	clayey	-	<u></u>
								subangular	fine to medium quartzite and sandstone		0.25	
									alightly grouply alightly alovey find to	/	-	
	-					*. •		SAND. Gra	avel is angular to subangular fine to	nedium	(0.55)	
	0.50-0.80	1	ES			** **	H.	sandstone.			- (0.00)	
						。 。					- 0.00	
						•	•日.•.	Window sa	mple hole terminated at 0.80 m depth	due to	0.80	<u></u>
								access issu	les.		-	
[[-	
											-	
											-	
F F											-	
	•										-	
											-	
											-	
											-	
[[-	
											-	
											-	
											-	
[[[
											-	
											-	
t t											-	
											-	
											-	
											-	
t t												
											-	
											-	
											-	
t t											-	
ļ											-	
											-	
											-	
-	-										-	

	1	Drilling Pro	ogress and	Water 0	Observation	IS			Con	متحال				
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water r Depth			Gen	erari	Remarks			
-			(m)	(m)	(mm)	(m)	 Positi Inspe No gr 50 mi cover depth 	on scanne ction pit ha oundwater m diameter installed to	ed with a CAT a and dug to 0.80 r encountered. r gas/groundwa o 0.80 m depth	and Gen) m dept ater mon) on com	ny prior to excava h. itoring well compl pletion. Respons	ation. ete with flu e zone 0.4	ish prote 0 m to 0	ctive .80 m
	1						ŀ	All dimensi	ons in metres		Scale:	1:25		
-	Method Used:	Inspection window	pit + Track / sampling	ked Pla Us	ant sed: P	remier 11	0	Drilled By:	Central Alliance	Logged By:	d HGildersleeves	Checked By:		AGS



Contract:						(Client:			Window	<i>w</i> Sampl	e:
	Ne	w D	eer				V	'irmati En	ergy Ltd (Field Energy)			WS7
Contract Ref:			Start:	06.03.25	Gro	ound	Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
3	40617		End:	06.03.25			167	.60	E:380846.7 N:848216.2		1	of 1
Progress		San	nples / Te	ests		L.	IJ				Depth	Material
Window Run	Depth	No	Туре	Results		Wate	Back		Description of Strata		(Thick ness)	Graphic Legend
-	-	1	ES					Spongy dan fibrous PEA subrounded	k brown slightly gravelly slightly sandy \T. Sand is fine to coarse. Gravel is ang I medium to coarse quartzite.	clayey gular to	- 0.15	
-	0.40-1.00	1	В					(TOPSOIL) Yellowish k	prown slightly gravelly slightly clayey	fine to	-	
0.40 - 1.00 (87mm dia) 100% rec	-							medium sar (TILL)	ndstone.		(0.85)	
- V	-	1	edt	N=10				Clinktly or		ilan ta	1.00	
	- 1.00-1.45 - 1.00-1.45 - -	1	D	N=18				slightly on subangular fine to coars (TILL)	angish yeilowish brown sandy angi fine to coarse sandstone GRAVEL. S se.	and is	-	
1.00 - 2.00 (87mm dia) 100% rec	- 1.45-2.00 - -	2	В								_ _ (1.35)	
[▼	- - 2.00-2.35 - 2.00-2.35 -	2 2	SPT D	N:50 for 200m	nm						-	
-	-							Window sa refusal.	mple hole terminated at 2.35 m depth	due to	- <u>2.35</u> - -	
-	-										-	
-	-										-	
-	-										-	
-	-										-	
-	-										-	
-	n n										-	

	Drilling Pr	ogress and	Water Ob	servations				Con	orol	Domorko		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erar	Remarks		
		(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr	on scanne ction pit ha oundwater	ed with a CAT a and dug to 0.40 • encountered.	and Ger) m dep	nny prior to excava th.	ition.	
						ŀ	All dimensi	ons in metres		Scale:	1:25	
Method Used:	Tracke sar	d windownpling	W Plan Useo	t d: Pr	emier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:	AGS



Contract:							Client:					Trial Pi	t:	
		Ne	w De	er			V	'irmati E	nergy L [·]	td (Field Ener	gy)			TP2
Contract Re	ef:			Start:	06.0	3.25	Ground Level	(m AOD):	National	Grid Co-ordinate:		Sheet:		
	3406	617		End:	06.0	3.25	169	.02	E:38	0720.2 N:8482	220.3		1	of 1
San	ples a	nd In-si	tu Tests		ater	ckfill			Descriptio	on of Strata			Depth (Thick	Material Graphic
Depth	No	Туре	Res	ults	ŝ	Ba			Beeenplie				ness)	Legend
0.00-0.20	1	D					MADE GRU content. Sar to coarse of subrounded MADE GRC angular to su MADE GRC Yellowish br matrix of silt quartzite an subangular of (TILL)	OUND: Blac nd is fine to a quartzite an OUND: Blac ubangular qu OUND: Brow rown COBB y gravel. Gr nd metapel quartzite and	ck sandy s coarse. Gra d granite/ps k COBBLE jartzite. In fine to coa LES with r avel is anguite. Cobble i metapelite	silty GRAVEL with vel is angular to sub- osammite. Cobbles sammite up to 150 m S with a little silt ma arse SAND. noderate boulder co- ular to subangular m es and boulders up to 300 mm.	medium or rounded me are angu trix. Cobble Intent and redium to c are angul	cobble edium lar to es are some oarse ar to itions:	0.10 0.20 0.25 (0.75)	
	0								Conora	Domortico				
Pian (Not to		?) 2.5	0]	1. P 2. T 3. T 4. T	Positio Trial pit Trial pit	n scanned with remained dry was unstable backfilled with	a CAT and during excav during excav a arisings in r	Genny prio vation. vation. everse orde	r to excavation.				
							All dimensio	ons in metres	;	Scale:		1:8		
Method Used:	Мас	hine c	lug	Plant Used	¹ 5	Ton	Tracked Ex	cavator	Logged By:	HGildersleeves	Checked By:	1		AGS



The bear of the state of th	Contract:		Nic		0 F			Client:	Enorm	l td (Field Eper	an ()	Trial Pi	it:	TDA
340617 End 0.6.0.2.25 170.01 E:380668.7 N:848047.4 1 or 1 Samples and In-situ Tests B Test 0.6.0.2.25 Test 0.6.0.2.25 Description of Strata Depth Maker Depth No Type Results Description of Strata Depth Maker Depth No Type Results Description of Strata Depth Maker Depth No Type Results Description of Strata Depth Maker Depth No Type Results Description of Strata Depth Maker Depth No Type Results Depth Maker Depth No Type Results Depth Maker Depth No Type Results Depth Maker Depth No Depth Colspan= angular to subangular colspan="2">Depth Maker Colspan= angular to subangular colspan="2">Subangular colspan="2">Depth Maker Type Type Type Type Type Type Type Type	Contract Re	əf:	INE	w De	er Start:	06.03	3 25	Ground Level (m AOD		al Grid Co-ordinate:	gy)	Sheet:		184
Samples and In-situ Tests g<	Contracting	3406	617		End:	06.0	3.25	170.01	E:3	80668.7 N:8480	47.4	eneet.	1	of 1
Depth No Type Results S S Description of Strata 0.80-100 1 F S	San	nples a	nd In-sit	u Tests		ter	kfill		Description	tion of Otrocho	I		Depth	Material
0.80-1.00 1 E5 0.80-1.00 1 E5 0.80-1.00 1 E5	Depth	No	Туре	Res	ults	Ma	Bao		Descrip	tion of Strata			ness)	Legend
Plan (Not to Scale)		1	ES					Dark brown silty CL Occasional cobbles at (TOPSOIL) Light brown COBBL slightly gravelly silt.0 quartzite. Cobbles ar mm. Boulders are at Occasional gravel of (TILL)	AY with hig re angular to ES with low aravel is angu e angular to a very weak si at 1.60 m o rogress.	h fibrous content, roc o subangular quartzite u v boulder content and ular to rounded medium subangular quartzite u subangular quartzite u litstone lithorelicts in the depth due to hard gro	pund condi	titions:	0.10	
All dimensions in metres Scale: 1:11 Method Plant Logged Checked Used: Necking dum By: Checked			2.20) —•	-	1. P 2. T 3. T	Position Trial pit	n scanned with a CAT a remained dry and stabl backfilled with arisings	nd Genny pr e during exc in reverse or	rior to excavation. avation. der upon completion.				
Method Plant Logged Checked Ry								All dimensions in me	res	Scale:		1:11		
	Method				Plan	it d· = -	- ·		Logged		Checked			



Contract:		Ma						normalite	(Field Energy)	Trial P	it:	τr
Contract Ro	f	INE	w Deel	ľ tart:	06.02	25		National C		Sheet		11
Contractive	'. 8406	\$17		uaru. nd:	00.03	.25	167 82	E.380	580 0 N·847968 (1	of
0		und lm = 11		nu.	00.03	-23	107.02	L.300	JJU.U 11.04/ 300.		I	01
Depth	pies a	Type	Result	ts	Water	Backfill		Description	of Strata		Depth (Thick ness)	Gra Gra
0.10-0.50	1	ES					Dark brown silty CLAY rootlets. Roots up to 50 (TOPSOIL) Light brown COBBLES silt. Gravel is angular to and boulders are angu frequent reddish brown s (TILL)	with high fib mm diameter. and BOULD subangular m lar to subang surface stainin 1.20 m deptl gress.	rous content, abundant ERS with some matrix edium to coarse quartzit ular quartzite up to 35 ig.	roots and of gravelly e. Cobbles 0 mm with conditions:	0.10	
Plan (Not to	Scale	e) 3.20			1. Pc 2. Tr 3. Tr	osition ial pit ial pit	n scanned with a CAT and remained dry and stable d backfilled with arisings in	Genny prior t luring excavat reverse order	Cemarks o excavation. on. upon completion.			
							All dimensions in metres	S	Scale:	1:8		
		-										



Contract:							Client:			Trial	Pit:	
		Ne	w De	er			Virmati E	Energy	Ltd (Field Energy	gy)		TP6
Contract Re	f:			Start:	06.03	3.25	Ground Level (m AOD):	Nation	al Grid Co-ordinate:	Shee	et:	
	3406	517		End:	06.03	3.25	166.37	E:3	380864.4 N:8483	85.2	1	of 1
Sam	ples a	nd In-sit	u Tests		Vater	ackfill		Descrip	otion of Strata		Depth (Thick	Material Graphic
		туре	Res	uits	>			rk grov or	ad block COPPLES or		ness)	
- 0.50-0.60 - 0.50-0.60 	2 Scale	ES					MADE GROUND: Gre Subangular quartzite, p 200 mm square. MADE GROUND: Gre Sand is fine to coarse quartzite with minor me subangular quartzite up Light brown COBBLES silt. Cobbles and bou psammite. (TILL) Trial pit terminated at excavator could not pro	ey sandy s ammite a ey sandy s appears edium to c to 200 m S and BO ilders are 0.70 m ogress.	ilty GRAVEL with high and metapelite up to 3 ilty GRAVEL with high ashy. Gravel is angula oarse charcoal. Cobble m. ULDERS with some m angular to subangula depth due to hard gro	cobble content s are angular to 50 mm wide by cobble content r to subangula s are angular to natrix of gravelly r quartzite and nund conditions	0.50) 0.50) 0.50 0.50 0.10) 0.60 (0.10) 0.70 -	
0.70		2.50)>		1. P 2. T 3. T 4. T	Position Trial pit Trial pit Trial pit	n scanned with a CAT an remained dry during exca was unstable during exca backfilled with arisings in	d Genny p avation. avation. reverse o	rior to excavation. rder upon completion.			
							All dimensions in metre	es	Scale:	1:6		
Method				Plant	I			Logged		Checked		
Used:	Мас	hine d	ug	Used	5	Ton ⁻	Tracked Excavator	By:	HGildersleeves	By:		AGS



Contract:							Client:			Tria	al Pit:	
		Ne	w De	er			Virmati E	nergy Lto	d (Field Ener	gy)		TP9
Contract Re	f:			Start:	05.03.	25	Ground Level (m AOD):	National G	rid Co-ordinate:	She	eet:	
	3406	17		End:	05.03.	25	166.04	E:380	935.0 N:8481	43.0	1	of 1
Sam	ples a	nd In-siti	u Tests		'ater	ackfill		Description	of Strata		Depth (Thick	Material Graphic
Depth	No	Туре	Res	ults	3	ă 					ness)	Legend
0.00-0.10 0.50 0.50 1.50 1.50 2.50-2.60	1 1 2 2 1	ES D B					Firm dark brown silty da Cobbles are relict branch (PEAT) Dark greyish brown sl medium. Gravel is grey a (TILL) Light brown friable SI subangular quartzite and (TILL) Light yellowish brown SI (TILL) Brown and yellowish brown SI planar staining, <1 mm v (TILL)	ayey fibrous F nes, wood and ightly gravell angular fine to LT. Occasion d psammite, 1.	PEAT with medium d roots up to 20-30 y sandy CLAY. S coarse chert and hal cobbles are g 20 mm.	a cobble conter mm diameter. Sand is fine metapelite. grey angular	(0.70) 1.00 (0.70)	$\begin{array}{c} \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
- - - - Plan (Not to \$7:0	Scale) 3.70)	-	1. Po: 2. Tria 3. Tria	sition 1	Trial pit terminated at 2.6 scanned with a CAT and emained dry and stable d vackfilled with arisings in r	30 m depth. General Genny prior t uring excavat reverse order	Remarks o excavation. ion. upon completion.		2.80	
Method				Plan	L		All dimensions in metres	S Logged	Scale:	1:1 Checked	9	



Contract:							CI	lient:						Trial P	it:	
		Ne	w De	er				Vir	mati E	nergy	۲ Ltd (F	ield Ene	rgy)			TP10
Contract Re	ef:			Start:	05.0	3.25	Ground L	.evel (ı	m AOD):	Natior	nal Grid Co	o-ordinate:		Sheet:		
	340	617		End:	05.0	3.25	1	167.1	11	E :	380965	.1 N:848	8090.9		1	of 1
Sam	ples a	and In-sit	u Tests		er	ţ									Depth	Materia
Depth	No	Туре	Res	sults	Wat	Back				Descri	ption of S	trata			(Thick ness)	Graphi
· ·							Plastic	dark b	orown silty	clayey t	fibrous PE	AT with hig	h cobble c	ontent.		
							Cobbles	s are a oots ar	angular gr nd branche	ey metap es up to 3	pelite and 30 mm diai	white quartz meter.	zite, 150-20	00 mm.	(0.25)	1/ 0-10-1
							(PEAT)								0.25	$\tilde{O}_{\underline{v}}^{\prime\prime}$
0 00 0 50		50					Light gr	ey an	d light yel	lowish b	rown mott	led dry friat	ole SILT. F	Reddish	- 0.20	×××
0.30-0.50	1	ES					brown s	taining	g on 1 mm	planar s	surfaces.				_	
							å í									× ×
0.50-0.80	1	D					8								-	××××
							8								(0.75)	× x ×
							8								-	××
							8								_	××
							8									× × ×
							8								1 00	×××
-							Slightly	light g	rey mottle	d yellowi	sh brown S	SILT.			1.00	×××
							(TIĽL)	0 0	,	,					-	× ^ ×
							8								_	× × ×
1.20-1.50	2	D					8									××
							8								-	x x
							8								-	× × ×
							8								(1.00)	××××
							8									× × ×
							8									×××
							8								-	
							8								-	× × ×
1 00 0 00							8								-	×××
1.90-2.00		В					§								2.00	× × ×
							Trial pit	termin	ated at 2.0	00 m dep	oth.					
															-	
															-	
															-	
															_	
															-	
															-	
															-	
															_	
															-	
Plan (Not to	Scale	e)								Gene	eral Re	marks				
					1		n econnod	with a		Genny	orior to ove	avation				
	-	- 2.10) —	•	2.	Frial pit	remained	dry ar	nd stable c	luring ex	cavation.	avalion.				
55					3.	Trial pi	backfilled	with a	arisings in	reverse o	order upon	completion				
0.5																
				_												
							All dime	ension	s in metre	3	5	ale.		1.17		
Method				Plar	nt				11104 04	Logged	d		Checke	ed 📕		
Used:	Mad	chine d	ug	Use	d: 5	Ton	Tracked	l Exc	avator	By:	HGilde	ersleeves	By:			AG



Contract:							Client:			Trial P	it:	
		Ne	w De	er			Virmati E	Energy L	td (Field Energ	gy)		TP11
Contract Re	ef:			Start:	05.03	3.25	Ground Level (m AOD):	National	Grid Co-ordinate:	Sheet		
	3406	617		End:	05.03	3.25	166.99	E:38	30918.8 N:8480	95.5	1	of 1
Sam	ples a	nd In-si	tu Tests		er	cfill					Depth	Material
Depth	No	Туре	Res	ults	Wat	Back		Descripti	on of Strata		(Thick ness)	Graphic Legend
							Plastic dark brown si	Ity clayey	fibrous PEAT with	medium cobble	,	
-							diameter. Cobbles are i	elict branch	nes, roots and wood	up to 100 mm	- (0.20)	
-							(PEAT)			/	0.20	\mathbb{C}
-							(PEAT)	I Silly Clayey	IDIOUS PEAT.	/	0.30	/, <u>, , </u>
0.40-0.60	1	FS					Light greyish brown S	LT with oc	casional <1 mm wide	e reddish brown	-	$\times \times $
-	'	LS					(TILL)				-	$\times \times \times$
_												x x x
0.60-1.00	1	D										\times \times \times \times \times
-											(0.90)	$\times \times \times$
-											-	x x x
-											-	
_											-	× × ×
-											-	$\begin{array}{c} \times & \times \\ \times & \times \end{array} \times \\ \times & \times \end{array}$
-							Light group CIL Twith free	au cost ve deli	ah kucum nlan ar ataini		1.20	\times \times \times \times \times \times
		_					(TILL)	quent readis	sh brown planar staini	ng.	-	× × ×
1.30-1.50	1	В										× ^ × ^
												$\begin{pmatrix} \times & \times \\ \times & \times \\ \times & \times \end{pmatrix}$
-												× × ×
-							At 1.60 - 1.70 m d	epth - 100	mm pocket of pinkish	cream coloured	- (0.80)	
-							SILT.				-	× × ×
-											-	x x x
-											-	
_							T	00 1 11			2.00	× × × ×
_							I rial pit terminated at 2.	00 m deptn				
-											-	
-											-	
-											-	
-											-	
-											-	
-											-	
	•							_				
Plan (Not to	Scale	e)						Genera	al Remarks			
	_		0		1. P	ositior	n scanned with a CAT and	d Genny pric	or to excavation.		_	_
		2.2		7	2. T	rial pit rial pit	remained dry and stable of backfilled with arisings in	during excav	vation. ler upon completion			
).55						. a pi	zaoranea maranongo III					
	♥ ∟											
							All dimensions in met-	•	Contra	4.47		
Method				Plan	 t			Loaaed	Scale:	Checked		
Used:	Mac	hine c	lug	Use	d: 51	Ton ⁻	Fracked Excavator	By:	HGildersleeves	By:		AGS



Contract:							Client:			Tr	ial Pit:	
		Ne	w De	er			Virmati E	nergy Lto	d (Field Energ	gy)		TP12
Contract Re	ef:			Start:	05.03	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	Sł	neet:	
:	340	617		End:	05.03	3.25	168.42	E:380	980.6 N:8480	41.6	1	of 1
Sam	ples a	and In-site	u Tests		ы С	E					Depth	Materia
Depth	No	Type	Res	ults	Wate	Back		Description	of Strata		(Thick	Graphic
0.00-0.25	1	ES					Plastic dark brown silty	clayey fibrou	s PEAT. Fresh roc	ots up to 20 i	mm	<u><u> </u></u>
							diameter. Relict roots ar	id branches u	p to 30 mm diamete	er.	(0.25)	<u>1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1</u>
							(,				0.25	
							Light yellowish brown s	ightly silty sa	ndy GRAVEL. San	d is fine. Gra	avel	0× .0
							metapelite.			qualizite	-	
							(TILL)				-	or O
											(0.75)	×. O.
0.60-0.80	1	В									(0.75)	¢. C
											-	
											-	
												b O
							Brown friable slightly g	ravelly sandy	CLAY. Sand is t	fine to medi	um.	- <u>°</u>
							Gravel is angular to sul	prounded med	dium to coarse qua	rtzite, chert a	and	<u> </u>
							(TILL)					
											(0.50)	
											-	- <u>-</u> -
1.40	'										1.50	
							White and grey angula Cobbles are high dens	r to rounded ity quartzite a	COBBLES with n Ind metapelite, up	ninor silt ma' to 180-200 i	trix. mm	0000
							size.				(0.40)	80
							(1122)				- (0.40)	000
											1 90	° 0
						×××××	Trial pit terminated at 1.9	90 m depth du	e to hard ground co	onditions.		
											-	
											-	
											-	
											-	
											-	
											-	
											-	
											-	
											_	
		I				•		-			L.	
Plan (Not to	Scale	∋)						General	Remarks			
	-	2 20) — ►		1. P	ositio	n scanned with a CAT and	Genny prior t	o excavation.			
_	▲	2.20]	2. T 3. T	rial pi rial pi	remained dry and stable c backfilled with arisings in	luring excavat reverse order	ion. upon completion.			
0.50						•						
	▼ ∟			J								
							All dimensions in metre	6	Scale:	1:	17	
Method				Plan	t 1. – -	_	- - .	Logged		Checked		
Used:	Mad	chine d	ug	Used	J. 5	Ton	Tracked Excavator	^{Dy.} H	Gildersleeves	Бу:		AG



Contract:						Client:			Т	rial Pit:		
		Ne	w Deer			Virmati E	Energy Lto	d (Field Energ	gy)			TP13
Contract Re	ef:		Start	: 05.0	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	s	Sheet:		
	3406	617	End:	05.0	3.25	170.07	E:380	917.6 N:8479	69.6		1	of 1
Sam Denth	ples a	Ind In-situ	I Tests Results	Nater	Backfill		Description	of Strata			Depth (Thick	Materia Graphic
Doput		Турс	Results			Dark brown slightly gu rootlets. Sand is fine medium chert and coar	ravelly slightly to coarse. C se angular gra	sandy silty CLAY Gravel is subround nite, quartzite and sa	with abun led to rour andstone.	idant nded	0.10	
						(TOPSOIL) Plastic dark brown to bl (PEAT)	lack silty claye	y fibrous PEAT.		/ -	(0.35)	<u>1/ 1/ 1/ 1/</u> 1/ 1// 1// 1/ 1// 1//
0.50-0.60 0.50-0.60	1	ES D				Light brown very grave coarse white quartzite, (TILL)	elly SILT. Grav psammite and	vel is angular to sub sandstone.	oangular fir	ne to _	0.45	$\begin{array}{c} \underline{\scriptstyle (1)} & \underline{\scriptstyle (1)} \\ \times_{0} & \times \\ \times & \times \\ \times & \times \\ \times & \times \\ \times & \times \\ \end{array}$
						Brown very gravelly SI	LT with high c	obble content. Grav	vel is angul	ar to	0.70	×°× × 0 <u>× ×</u> 0,
						angular to subangular v angular to subangular v (TILL)	arse white qua white quartzite	and psammite up to	e. Cobbles 200 mm.	are _	(0.50)	
1.20-1.40	1	в				Grey silty GRAVEL w	ith high cobble	e content and low b	oulder con	tent.	1.20	× Ý Ý Ý
						Gravel is angular to siltstone lithorelicts and psammite. \(TILL)	subangular m I angular to sul	edium to coarse v bangular coarse whi	ery weak ite quartzite	grey and	(0.20) 1.40	
						Grey SILT with abund coarse siltstone lithorel (TILL)	ant very weak icts.	angular to subang	ular mediu	m to		× × × × × × × × × × × × × × × × × × ×
										-	(0.60)	
						Trial pit terminated at 2	.00 m depth.				2.00	× × × × ×
										-		
										-		
										-		
										-		
Plan (Not to	Scale	e)		1.1	Positio	n scanned with a CAT and	General	Remarks				
	_	2 00	-		Trial nit	remained dry and stable	during excavat	ion				
0.50		— 3.00		2. 3. ⁻	Trial pit	backfilled with arisings in	reverse order	upon completion.				
0.50		3.00	>	2. 3. ⁻	Trial pit	backfilled with arisings in	reverse order	upon completion.	1	:17_		



Contract:							(Client:			Т	rial Pit:		
		Ne	w De	er				Virmati E	nergy L	td (Field Ener	gy)			TP14
Contract Re	ef:			Start:	05.03	3.25	Ground	Level (m AOD):	National	Grid Co-ordinate:	S	heet:		
	3406	617		End:	05.03	3.25		171.03	E:38	80756.2 N:8478	852.1		1	of 1
Sam	ples a	nd In-si	tu Tests		ter	kfill						E	Depth	Material
Depth	No	Туре	Res	ults	Va	Bac			Description	on of Strata		(r	I hick ness)	Legend
Sam Depth 0.40-0.60 0.50-0.80 - - - - - - - - - - - - - - - - - - -	No 1 1 1	nd In-si Type ES D	tu Tests Res	sults	Water	Backfill	Yellow Gravel with re (TILL)	rown slightly gra Gravel is angul elite. SOIL) orown and yellov s.	Description velly slight <i>i</i> sh brown rey slightly ibangular n led faces. 00 m depth.	on of Strata ly sandy silty CLAY. led fine to coarse qua slightly sandy SILT. silty sandy GRAVE nedium to coarse silt:	Sand is fin artzite, chert Sand is fin L. Sand is fistone lithore	Image: constraint of the second se	Depth Thick ness) 0.20) 0.20 1.20) 1.20) 2.00	Material Graphic Legend ************************************
		2.3	0•		1. P 2. T 3. T	ositior rial pit rial pit	n scanne remaine backfille	d with a CAT and d dry and stable o d with arisings in	Genny price during excav reverse ord	or to excavation. vation. ler upon completion.				
							All dim	ensions in metre	S	Scale [.]	1	:17		
Method				Plan	t				Logged		Checked			
Used:	Мас	hine c	lug	Used	^{1:} 5 ⁻	Γon ⁻	Tracke	d Excavator	By:	HGildersleeves	By:			AGS



Contract:							Client:			Trial P	it:	
		Ne	ew Dee	r			Virmati E	nergy Ltd	(Field Energ	IY)		TP15
Contract Re	ef:		5	Start:	06.0	3.25	Ground Level (m AOD):	National Grid	d Co-ordinate:	Sheet:		
	3406	617	6	End:	06.0	3.25	168.87	E:3806	34.6 N:84789	99.3	1	of 1
San	nples a	nd In-si	tu Tests		ter	kfill					Depth	Material
Depth	No	Туре	Resu	lts	Na Na	Bacl		Description o	of Strata		(Thick ness)	Legend
							Dark brown organic ric content and abundant diameter. (TOPSOIL)	ch slightly sand roots and roo	dy silty CLAY wit ttlets. Tree roots	h high fibrous up to 50 mm	0.10	$\begin{array}{c} \underline{x}^{1} \underline{h}_{\underline{y}} & \underline{x}^{1} \underline{h}_{\underline{y}} \\ \hline \underline{x}^{1} \underline{h}_{\underline{y}} & \underline{x}^{1} \underline{h}_{\underline{x}} & \underline{x}^{1} \underline{h}_{\underline{x}} \\ \hline \underline{x}^{1} \underline{x}^{1} \underline{x}^{1} & \underline{x}^{1} \underline{x}^{1} \\ \hline \underline{x}^{1} \underline{x}^{1} & \underline{x}^{1} \underline{x}^{1} \\ \hline \underline{x}^{1} \underline{x}^{1} & \underline{x}^{1} \\ \hline \underline{x}^{1} & \underline{x}^{1} \\ \underline{x}^{1} \\ \underline{x}^{1} & \underline{x}^{1} \\ \underline{x}^{1} \\ \underline{x}^{1} & \underline{x}^{1} \\ \underline$
0.20-0.30 _ 0.20-0.30	1	ES D					Grey sandy SILT. Sand (TILL)	is fine. Occasio	onal 10 mm diamete	er roots.	(0.30)	* · · · × * · · × * · · ×
- 0.80-1.20	1	В					Grey very silty GRAVE to rounded medium to c quartzite up to 100 mm. (TILL)	L with medium coarse quartzite	cobble content. Gr . Cobbles are ang	avel is angular ular to rounded	- (0.80)	
-							Grey COBBLES with n occasional boulders. S staining and mottling. Q quartzite. Cobbles are a typically 100-180 mm. E 300 mm with reddish bro (TILL)	nedium gravel o silt matrix is g Gravel is angula angular to subro coulders are ang own stained sur	content with much rey with orangish ar to rounded med ounded quartzite 6 gular to subangular faces.	silt matrix and brown planar dium to coarse 50-200 mm but quartzite up to	1.20	
- - -	2	D					Trial pit terminated at 1.9	90 m depth due	to hard ground co	nditions.	- - - -	0 0 0 0
-											-	
-											_	
Plan (Not to	Scale	a) 						General	Remarks			
		., 2.1	0		1. P 2. T 3. T	Positio Trial pir Trial pir	n scanned with a CAT and t remained dry and stable c t backfilled with arisings in	Genny prior to luring excavatio reverse order u	excavation. on. pon completion.			
							All dimensions in metre	6	Scale:	1:17		
Method				Plant		_		Logged		Checked		
Used:	Mac	hine c	lug	Used	5	Ton	Tracked Excavator	By: HG	ildersleeves	ву:		AGS



Contract:							Client:			Trial	Pit:	
		Ne	w Dee	r			Virmati	Energy Lt	d (Field Energ	gy)		TP16
Contract Re	ef:		S	Start: (06.03	3.25	Ground Level (m AOD):	National G	Grid Co-ordinate:	She	et:	
	3406	17	E	nd: (06.03	3.25	163.40	E:380)528.1 N:8480	61.0	1	of 1
Sam	nples ar	nd In-sit	u Tests		ter	kfill		Description			Depth	Material
Depth	No	Туре	Resul	ts	Wa	Bac		Description	1 of Strata		ness)	Legend
0.00-0.10		ES					Dark brown slightly g content, high fibrous of fine to coarse. Grave quartzite. Cobbles are Tree stumps up to 300 (TOPSOIL) Light brown COBBLE sandy silty gravel. S subrounded medium subrounded quartzite (TILL)	avelly slightly content and al el is angular angular to si mm trunk wid S and BOULI iand is fine to coarse q up to 200 up to 200 mm,	sandy silty CLAY bundant roots and ro to subrounded mea- ubangular quartzite th, 2.00 m root zone DERS with a little n to medium. Gravel uartzite. Cobbles a mm. Boulders a recovered up to 380 ue to hard ground co	with low cobbl ootlets. Sand i dium to coars up to 200 mn natrix of slight is angular t are angular t mm.	e se 0.10 y 0.10 (0.90) - (0.90) - 1.00	$ = \begin{bmatrix} & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & & \\ &$
09.0		— 3.20)		1. P 2. T 3. T	ositior rial pit rial pit	n scanned with a CAT an remained dry and stable backfilled with arisings ir	d Genny prior during excava n reverse order	to excavation. tion. r upon completion.			
							All dimensions in metr	es	Scale:	1.8		
Method				Plant				Logged		Checked		
Used:	Mac	hine d	ug	Used:	5 1	Γon [·]	Tracked Excavator	By: H	Gildersleeves	By:		AGS



Contract:							Client:			Tria	l Pit:	
		Ne	w Dee	ər			Virmati E	nergy Ltd	l (Field Ener	gy)		TP17
Contract Re	ef:		:	Start:	06.0	3.25	Ground Level (m AOD):	National Gri	id Co-ordinate:	She	et:	
	3406	617		End:	06.0	3.25	162.78	E:3806	614.8 N:8482	276.7	1	of 1
Sam	ples a	nd In-sit	u Tests		er	till					Depth	Material
Depth	No	Туре	Resi	ults	Wat	Back		Description	of Strata		(Thick ness)	Graphic Legend
Depth 0.50-1.00 0.50 1.50 1.50 2.00-2.50	No 1 1 1	ES D D	Resu	lts	Water	Backfill	Dark brown organic ri abundant roots and roo with up to 2.00 m wide ro (TOPSOIL) Light brown slightly san content. Sand is fine. Gi quartzite. Cobbles are a Boulders are angular to (TILL) Pinkish brown SILT. (TILL)	Description of ch silty CLAN tlets. Roots up oot zone. dy very silty gr ravel is angula angular to sub rounded quart	of Strata Y with high fibro to 30 mm diame avelly COBBLES r to subrounded m rounded quartzite zite up to 300 mm.	us content ar ter. Tree stump with low bould redium to coars up to 200 mr	Depth (Thick ness) id os - (0.20) 0.20 er er e - - - (0.80) - - - - - - - - - - (0.80) - - - - - - - - - - - - - - - - - - -	Material Graphic Legend 0 0 0 0
-											-	$\left \begin{array}{c} & \times & \times \\ & \times & \times \end{array} \right $
-						XXXX					2.60	× × ×
Plan (Not to	Scale	e) 3.00)		1. F 2. T 3. T	Positior rial pit	n scanned with a CAT and remained dry and stable d backfilled with arisings in	Genny prior to luring excavation reverse order u	Remarks o excavation. on. upon completion.		-	
							All dimensions in metres	S	Scale:	1:1	7	
Method Used:	Мас	hine d	lug	Plan Usec	ւ ^{1:} 5՝	Ton ⁻	Fracked Excavator	By: HG	Gildersleeves	Checked By:		AGS



Contract Ref 3 Samp Depth 0.40-0.60 0.50	f: 3406 ples ar 1 1 1	D ES B	u Tests Results		Backfill	5 Grour 5 Darl rooti (TO) Yello angu (TIL Ligh angu (TIL Ligh boul sano sano (TIL	A brown silty CLAY ets. Roots are up to PSOIL) wish brown sandy ular to subrounded f L) t brown sandy gra ular to subrounded f L) t grey gravelly SIL ders. Gravel is an distone and psammi distone and psammi	Description with high fibr 20 mm diamed gravelly SILT. ine to coarse q velly SILT. S ine to coarse q velly SILT. S ine to coarse q to coarse q	d Co-ordinate: 719.2 N:84849 of Strata ous content, abund ier. Sand is fine to con- uartzite. and is fine to coa- uartzite. n cobble content a ounded fine to coa- e angular to subara	dant roots and arse. Gravel is and occasional arse quartzite, gular quartzite,	1 Depth (Thick ness) 0.10 (0.20) 0.30 (0.30) 0.60	of 1 Materia Graphic Legend ************************************
3 Samp Depth 0.40-0.60 0.50 1.00-1.50	3406 ples ar No 1 1	D ES B	u Tests Results		6.03.2 Mater	5 Dark rootl (TO) Yello angu (TIL Ligh boul sano quat (TIL	165.91 (c brown silty CLAY ets. Roots are up to PSOIL) wish brown sandy ular to subrounded f L) t brown sandy gra ular to subrounded f L) t grey gravelly SIL ders. Gravel is an dstone and psammi dstone and psammi	E:3807 Description with high fibr 20 mm diamed gravelly SILT. ine to coarse q velly SILT. S ine to coarse q T with medium gular to subr te. Cobbles an	r19.2 N:84848 of Strata ous content, abund ter. Sand is fine to con uartzite. and is fine to coa uartzite. n cobble content a ounded fine to co e angular to subar	dant roots and arse. Gravel is arse. Gravel is and occasional arse quartzite, gular quartzite,	1 Depth (Thick ness) 0.10 - (0.20) 0.30 - (0.30) - (0.30) 0.60	of 1 Materia Graphic Legence * * * * * * * * * * * * * * * * * * *
Samp Depth 0.40-0.60 0.50	Ples ar No 1 1	D ES B	u Tests Results		Water	Dark rooti \(TO) Yella angu \(TIL Ligh angu (TIL Ligh boul sanc quar (TIL	c brown silty CLAY ets. Roots are up to PSOIL) wish brown sandy ular to subrounded f L) t brown sandy gra ular to subrounded f L) t grey gravelly SIL ders. Gravel is an dstone and psammi dstone and psammi	Description with high fibr 20 mm diamet gravelly SILT. ine to coarse q velly SILT. S ine to coarse q T with mediur gular to subr te. Cobbles ar	of Strata ous content, abund ier. Sand is fine to coa uartzite. and is fine to coa uartzite. n cobble content a ounded fine to co e angular to suban	dant roots and arse. Gravel is arse. Gravel is and occasional arse quartzite, gular quartzite,	Depth (Thick ness) 0.10 (0.20) 0.30 (0.30) 0.60	Materia Graphic Legenc * * * * * * * *
Depth 0.40-0.60 0.50	No 1 1	Type D ES B	Results		Wate	Ligh boul sance (TIL Ligh boul sance (TIL	k brown silty CLAY ets. Roots are up to PSOIL) wish brown sandy llar to subrounded f L) t brown sandy gra ular to subrounded f L) t grey gravelly SIL ders. Gravel is an ders. Gravel is an detone and psammi dstone and psammi	Description of with high fibr 20 mm diamed gravelly SILT. ine to coarse of velly SILT. S ine to coarse of T with mediur gular to subr te. Cobbles ar	of Strata ous content, abund ier. Sand is fine to con uartzite. and is fine to coa uartzite. n cobble content a ounded fine to co e angular to subary	dant roots and arse. Gravel is arse. Gravel is and occasional arse quartzite, gular quartzite,	(Thick ness) 0.10 (0.20) 0.30 (0.30) 0.60	Graphii Legence ***********************************
0.40-0.60 0.50 1.00-1.50	1	D ES				Dark rootl \(TO) Yella angu (TIL Ligh boul sanc sanc quat	brown silty CLAY ets. Roots are up to PSOIL) wish brown sandy Jlar to subrounded f L) t brown sandy gra Jlar to subrounded f L) t grey gravelly SIL ders. Gravel is an dstone and psamm dstone and psamm	with high fibr 20 mm diamed gravelly SILT. ine to coarse q velly SILT. S ine to coarse q T with mediur gular to subr te. Cobbles ar	ous content, abund ier. Sand is fine to con uartzite. and is fine to coa uartzite. n cobble content a ounded fine to co e angular to suban	dant roots and arse. Gravel is arse. Gravel is and occasional arse quartzite, gular quartzite,	0.10 (0.20) 0.30 (0.30) 0.60	* * * * * * * * * * * * * * * * * * *
						Trial	pit terminated at 2.6	50 m depth.	0 mm. Boulders a	are subangular	(1.90) (1.90) - - - - - - - - - - - - - - - - - - -	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \end{array} \\ $
Plan (Not to s	Scale) 3.00)		1. Posit 2. Trial 3. Trial	ion scani bit remai bit backfi	ned with a CAT and ned dry and stable d lled with arisings in r	General Genny prior to luring excavation reverse order u	Remarks	1.17		
Method			PI	lant		All C		logged	Scale:	Checked		



Contract:								Client:							Trial Pi	t:	
		Ne	ew De	er				Virm	ati E	nergy l	Ltd (F	ield E	nerg	у)			SA1
Contract Re	ef:			Start:	04.0	3.25	Groun	d Level (m A	OD):	Nationa	al Grid Co	o-ordinat	e:	• •	Sheet:		
	340	617		End:	04.0	3.25		161.63		E:3	81078	.4 N:8	34850	4.7		1	of 1
Sam	ples a	and In-si	tu Tests		er	UII										Depth	Material
Depth	No	Туре	Res	ults	Wat	Back				Descript	tion of S	trata				(Thick ness)	Graphic Legend
							Firm	dark brown	slightly	/ gravelly	slightly	sandy o	clayey	fibrous	PEAT.	,	<u>x, 1</u> , <u>x, 1</u> , .
-							Sanc	d is fine to Istone and ch	coarse. nert.	Gravel i	is angula	ar to ro	unded	fine to	coarse	- (0.20)	17 · <u>· · · ·</u> · <u>· · · ·</u>
-								PSOIL)			·					0.20	<u></u>
0.30-0.60	1	FS					sand	enisn yellow ly clayey Sl	IDCAIIY	and is fir	orangisn ne to m	edium.	gntiy g Gravel	is ang	ular to	-	$\dot{-}\dot{-}\dot{-}\dot{-}\dot{-}\dot{-}\dot{-}\dot{-}\dot{-}\dot{-}$
-	.	20					subro	ounded fine t	to medi	um quartz	and flint	-				-	· <u>····</u>
_							8 (-,								-	
)									_	- <u>°</u>
							8										·····
-							8									-	$\dot{-}\dot{\cdot}$
-							() •									-	<u> </u>
-							•									-	· · · ·
1.00	1	D					• • •									-	
-							•									(1.80)	-
_							•									-	·
_							• •									_	• <u>•</u> ••••
							•										·
							• •										· <u>···</u> ·
1.50-2.00	1	В					F	From 1.50 m	depth -	becomes	s sandy.					-	
-							。 。									-	-° <u>-</u> ,'
-							•									-	·····
-							•									-	
-							• • •									-	••••••
_							• • •			0 1 11						2.00	
_							Inal	pit terminate	d at 2.0	0 m deptr	٦.					_	
-																-	
-																-	
-																-	
-																-	
-																-	
_																_	
Plan (Not to	Scale	e)								Gener	al Re	emark	(S				
		10	0	_	1. F	Position	n scanr	ned with a CA	AT and	Genny pri	ior to exc	avation.					_
		- 1.0	•	-	2. T	rial pit	remain backfil	ed dry and s led with grav	stable d	uring exca	avation.	pletion					
).50					4. li	nfiltrati	on testi	ing conducte	d within	trial pit fo	blowing b	backfill.					
	♥ ∟																
									una - 4						4.47		
Method				Plan	 t	Wh	All d	imensions in	metres	Loaaed	S	cale:		Checke	1:1/ d		
Used:	Mac	chine d	dug	Used	1:		exca	vator		By:	HGild	ersleev	ves	By:			AGS



Contract:							Client:			Tria	al Pit:	
		Ne	ew De	er			Virmati E	nergy Lte	d (Field Energ	av)		SA2
Contract Re	ef:			Start:	05.0	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	She	eet:	_
	3406	617		End:	05.0	3.25	162.59	E:381	062.5 N:8484	14.8	1	of 1
San	nples a	and In-si	tu Tests		er			·			Depth	Material
Depth	No	Type	Res	ults	Wat	Back		Description	of Strata		(Thick	Graphic Legend
							Spongy dark brown slig	htly gravelly	slightly sandy claye	y fibrous PEA	AT	<u></u>
0 10-0 40	1	FS					with frequent wood frag	ments up to	370 mm diameter.	Sand is fine	to _	$\frac{1}{1}\cdot \underline{x} \cdot \underline{x} $
-							sandstone.				(0.40)	<u></u>
-							(TOPSOIL)				-	$\frac{1}{1} \cdot \frac{1}{1} \cdot \frac{1}$
-											0.40	······································
_							Dark yellow locally moth Sand is fine to medium.	led orange s Gravel is an	lightly gravelly sand gular to subangular	dy clayey SIL fine to mediu	T. im _	
							quartz and sandstone.					·
											-	
0.70-1.20	1	В									-	<u> </u>
-											-	
-											-	
-							2 X				-	
-							•				-	
-							× • •				(1.60)	· <u>·</u> ····
_							° °				_	
							•					
							•					
-							0 0				-	
-							•				-	· <u>·</u> ····
-							• •				-	
-							o o o				-	
1.90	1	D					•				-	
-						<u></u>	Trial nit terminated at 2 (0 m denth			2.00	
-								o in deptit.			-	
_											-	
											_	
-												
-											-	
-											-	
-											-	
-											-	
-											-	
Plan (Not to	Scale	<i>i</i>)						General	Remarks			
	Joan	- /										
	4	— 1.7	5 —	•	1. P 2. T	ositior rial pit	n scanned with a CAT and remained drv and stable d	Genny prior t uring excavat	to excavation. tion.			
Ő	•				3.T 4.Im	rial pit	backfilled with gravel then	arisings upor	n completion. ving backfill			
0.6	↓					muau						
	_											
							All dimensions in metres	3	Scale:	1:1	7	
Method Used:	Mar	hino d	łua	Plant Used	:	Wh	eeled backhoe	Logged By: ப	Gildersloovee	Checked By:		AGS
L	ivia		uy				CAGAVALUI	· 11	0110013100763	,		



Contract:							Client:		Tri	ial Pit:	
		Ne	w De	er			Virmati E	nergy Ltd (Field Ene	ergy)		SA
Contract Re	ef:			Start:	05.0	3.25	Ground Level (m AOD):	National Grid Co-ordinate:	Sh	neet:	
4	3400	617		End:	05.0	3.25	167.76	E:380839.7 N:848	3227.5	1	of 1
Sam	ples a	and In-situ	u Tests	;	ater	ackfill		Description of Strata		De (Th	oth Mater ick Graph
Depth	No	Туре	Re	sults	3	e B	Spongy dark brown sil content. Cobbles are rel	ty clayey fibrous PEAT with ict roots up to 100 mm diamet	n medium cob er with stumps	ble up_(0.2	20)
0.30-0.60	1	ES					Spongy dark brown sil content. Cobbles are rel to 300 mm diameter. (PEAT) Light brown gravelly SIL content. Gravel is angul and light grey crystallin angular quartzite and me staining on clast surface (TILL) Light grey silty GRAVEI grey angular to subangula (TILL)	ty clayey fibrous PEAT with ict roots up to 100 mm diamet T with medium cobble conter lar to subangular medium to de rock. Cobbles and boulde etapelite up to 300 mm. Freques.	n medium cob er with stumps It and low boul coarse light bro ers are light g ent reddish bro ine rock. Cobb n.	ble - (0.2 0.1 0.2 0.2 0.3 der - ywn - - (0.6 - - (0.6 - - (0.6 - - (0.6 - - (0.6 - - (0.7 - - (0.6 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (0.7 - - (1.7 - - (1.7 - - (1.7 - - (1.7 - - (1.7 - - (1.7 - - (1.7 - - (1.7 -	
Plan (Not to	Scale	e) 2.50) — 1	►	1. F 2. 7 3. 7 4. 1	Position Trial pit Trial pit nfiltrati	n scanned with a CAT and remained dry and stable d backfilled with gravel then on testing conducted withir	General Remarks Genny prior to excavation. uring excavation. arisings upon completion. trial pit following backfill.			
Mothod	·						All dimensions in metres	S Scale:	1: Checked	17	
ivietnod				Plan	11. d· =	-	Treaked Evenuetor				



Contract:							Client:			Trial I	Pit:	
		Ne	ew De	er			Virmati E	nergy Lt	d (Field Energ	ay)		SA4
Contract Re	ef:			Start:	05.0	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	Shee	t:	
	3400	617		End:	05.0	3.25	167.37	E:380	903.3 N:8480	91.5	1	of 1
Sam	nples a	and In-si	tu Tests		er	qfill					Depth	Material
Depth	No	Туре	Res	ults	Wat	Back		Descriptior	of Strata		(Thick ness)	Graphic Legend
							Spongy dark brown org	anic rich sli	phtly gravelly slightl	y sandy clayey		<u>x¹ 1_x: x¹ 1_z:</u>
-							is fine to coarse. Gra	th frequent w vel is angul	ood fragments up to ar to subrounded	fine to coarse	- (0.20)	$\frac{1}{1}\cdot\frac{\sqrt{1}}{\sqrt{1}}\cdot\frac{\sqrt{1}}{\sqrt{1}}\cdot\frac{\sqrt{1}}{\sqrt{1}}$
-							quartzite.	-			0.20	×
-							Yellowish brown slightly	sandy clayey	SILT. Sand is fine t	o medium.	-	
-							(TILL)				-	
-											-	× · × ×
-											-	וו •_ו × · ×
_											-	
							8					
0.80-1.00	1	ES					•				(1.30)	
							* • •					× <u>·</u> ×·×·×
_							• • •				-	×. *. *
-							•				-	· -* · * × · *
-							•				-	$\begin{array}{c} \cdot \underline{\times} \cdot \\ \times \\ \cdot \\$
1.30	1	D					•				-	
-							0 0 0				-	$\frac{\hat{x}}{x} \frac{\hat{x}}{x} \frac{\hat{x}}{x} \frac{\hat{x}}{x}$
1 50-2 00	1	в					Vellowish brown slight	v gravelly fi	ne to medium SA	ND Gravel is	1.50	××
-	'						subangular fine quartz.	y graveny n		IND. ORAVER IS	'	<i></i>
-							• (IILL)				-	. <i>0</i>
_							•				(0.60)	0
							•					U . e
							• • •					
							0 0 0				2.10	
-						<u> </u>	Trial pit terminated at 2.7	10 m depth.				· · · · ·
-											-	
-											-	
-											-	
-											-	
-											-	
-											-	
-											-	
-												
Plan (Not to	Scale	e)						General	Remarks			
	-	— 1.6	0 —		1. P	Position	n scanned with a CAT and	Genny prior	to excavation.			
C .	A]	2. 1 3. T	rial pit	backfilled with gravel then	arisings upo	n completion.			
0.3(\downarrow				4. lr	ntiltrati	on testing conducted within	n trial pit follo	wing backfill.			
	•			Ĩ								
							All dimensions in metres	3	Scale:	1:17		
Method	N4 -	 -		Plant		Wh	eeled backhoe	Logged	Cildersler	Checked		
0300.	iviac	nine (ug	Jused	-		excavator	∣ , H	GIIGERSIEEVES	b y.		



New Deer						Virmati E	Virmati Energy Ltd (Field Energy)				
Contract Ref: Start: (05.0	3.25	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:			
3	340617 End:			05.0	3.25	171.70	E:380813.4 N:847853.6		1	O,	
Sam	Samples and In-situ Tests			Nater	Backfill		Description of Strata		Depth	-	
Denth No Type Re		Results				(Thick					
0.00-0.20	1	ES			×***	Plastic dark brown silty	clayey slightly fibrous PEAT with freque	ent roots	110337		
0.50-1.00						up to 20 mm diameter.	. Occasional fine to coarse sand and g	gravel of	(0.24)		
						(PEAT)	medium chert and metapelite.		0.24		
						Grey and light brown fria	able SILT.		0.24	-	
						(TILL)					
	1								-		
		D							-		
									F		
						8			ŀ		
						8					
									-		
									-		
-						° •			F		
						•			(1.66)		
						•			L		
						` •			-		
						•			-		
						• •			F		
						•			Ļ		
						From 1.50 m - frequent angular to subangular coarse gravel size	vel sized				
									-		
						° •			-		
						•			-		
					[o]o]o]o]o]o]o]o]o]o]o]o]o]o]o]o]o]o]o]			1.90			
1.90-2.00	1	в				↓ Very weak light brown S ⊥ (TILL)	GILISTONE.		2.00		
						Trial pit terminated at 2.0	00 m depth.				
									-		
									Ī		
									F		
									ł		
									-		
									-		
									F		
									Ļ		
										_	
Plan (Not to	Scale	e)					General Remarks				
		a		1.1	Position	n scanned with a CAT and	Genny prior to excavation			-	
4	-	— 3.10 —		2.	Trial pit	remained dry and stable d	during excavation.				
20	`			3.	ı rıaı pit nfiltrati	on testing conducted with	arisings upon completion. n trial pit following backfill.				
o.						.					
						All dimensions in metres	s Scale:	1:17			



KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF ABBREVIATIONS

SAMPLING

Sample type codes:

- B = Bulk disturbed sample.
- D = Small disturbed sample.
- ES = Soil sample for environmental testing.

IN-SITU TESTING

SPT = Standard Penetration Test using split spoon sampler. ((NR) indicates 'No Sample Recovery').

ADDITIONAL NOTES

1. All soil and rock descriptions and legends in general accordance with BS EN ISO 14688-1:2018, 14688-2:2018, 14689:2018, and BS5930:2015+A1:2020.

2. Material types divided by a broken line (- - -) indicates an unclear boundary.

3. Fracture spacings (If) quoted in the Description of Strata for specific strata or specific fracture sets are also quoted in mm, e.g. (25/80/230) referring to (Min/Avg/Max).

4. The data on any sheet within the report showing the AGS icon is available in the AGS format.

5. Weathering desciptions in accordance with CIRIA Report C570 Engineering in Mercia Mudstone, CIRIA Report C574 Engineering in Chalk (2002), London Clay (King 1981), BS 5930:2015+A1:2020 Code of practice for ground investigations - Figure 9 - Approach 2, BS 5930:2015+A1:2020 Code of practice for ground investigations - Figure 9 - Approach 4, BS EN ISO 14689:2018 Geotechnical Investigation and testing - Identification, Description and Classification of Rock - Table 13.















